

STATUS OF THE CLAIMS

Claims 1-12 were originally filed in this patent application. In response to the first office action dated 03/01/04, an amendment was filed on 06/01/04 that amended claims 1, 4, 6, 7 and 9 and added new claims 13-20. In response to the final office action dated 11/03/04, an RCE and amendment was filed on 01/25/05 that amended claims 1, 4, 6 and 9. In a second response, claims 1, 6, and 9 were amended, and claims 11, 14, 18 and 20 were cancelled. In a third response claim 9 was amended and claim 11 was cancelled. In the pending office action, claims 9, 12 and 19 were rejected under 35 U.S.C. §101, and claims 1-10, 12-13, 15-17, and 19 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,392,993 to Hamilton. No claim was allowed. In this response claims 1-6, and 9 have been amended, claims 21-24 have been added, and claim 10 has been cancelled. Claims 1-9, 12, 13, 15-17, 19 and 21-24 are currently pending.

REMARKS

Rejection of claims 9, 11, 12 and 19 under 35 U.S.C. §101 as being directed to non-statutory subject matter

In response to the rejection of non-statutory subject matter, applicant has amended claim 9 to recite recordable signal bearing media, and has cancelled claim 10. Basis for the amendment can be found in the cancelled claims and on page 13, lines 19-20 of the specification. Recordable signal bearing media is both tangible and computer-readable. Applicant respectfully asserts that claims 9, 12 and 19 as amended recite statutory subject matter under 35 U.S.C. §101.

Rejection of claims 1-10, 12, 13, 15-17 and 19 under 35 U.S.C. §102(e) as being anticipated by Hamilton

The Examiner rejected claims 1-10, 12, 13, 15-17, and 19 under 35 U.S.C. §102(e) as being anticipated by Hamilton. Claim 10 has been cancelled. The claims were amended to more clearly distinguish over the cited art. Applicant asserts that the cited art does not teach or suggest the claims as presently amended herein. Applicant traverses the Examiner's finding of anticipation of the remaining claims as amended.

Claim 1

Claim 1 was amended to include the limitations of former claim 2, and to show the cluster communication mechanism enforces execution order of a plurality of received messages to perform the task. Basis for the amendment can be found in the specification on page 7, lines 14-16.

In contrast to claim 1, the multicast communication in Hamilton is not in a clustered computer system environment. Hamilton describes a multicast file transfer protocol (MFTP) used in a communications network to improve reliability for short messages. Hamilton does not teach or suggest using a sliding window in a clustered computer environment where the computers cooperate via ordered messages to perform a task.

In the Examiner's response to arguments (page 11), the Examiner states:

Hamilton clearly discloses using the messaging system within a clustered computing environment (see Hamilton Col 5, lines 55-58 "distributed computing environments where tasks are performed by remote processing devices that are linked through communication network.")

This statement demonstrates the Examiner's flawed position that clustered computing = distributed computing. As discussed in the previous action (included below), a distributed computing system as described in Hamilton is not a clustered computing system. They simply are not the same. The Examiner has failed to establish a prima facie case where there is no showing in Hamilton that the messaging system is used in a clustered computing environment as claimed in the present application. The cite from Hamilton simply does not support the Examiner's conclusion.

Claim 1 was amended to include the limitation of "enforcing execution order of a plurality of received messages to perform the task". The distributed computing suggestion in Hamilton does not teach or suggest enforcing the execution of a plurality of messages to perform a task, particularly where the task is performed by a cluster of computers as recited in claim 1. This amendment makes it clear that the execution of the ordered messages performs the task. The execution of the ordered messages is not merely the processing of the messages as implied by the Examiner's use of the Hamilton reference. The messages in Hamilton are data and not executable tasks. While the

messages received in the system described by Hamilton are processed, they are not executed to perform a task in a cluster of computers. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection based on Hamilton and allow the claims to issue. Reconsideration is respectfully requested.

Claim 2

Claim 2 was amended to include the additional feature of “the cluster communication mechanism sends a null message forcing acknowledges to pending messages to be sent by the plurality of other computer systems when the cluster communication mechanism changes to a new destination for sending subsequent messages.” Basis for this feature is found in the specification on page 20, lines 18-20. The cited art does not teach or suggest to use a null message to force the receiving computer to acknowledge the pending messages before changing to a new destination. Reconsideration is respectfully requested.

Claim 3

Claim 3 was amended to include the additional feature of “wherein at least one of the plurality of other computers includes a message timer to determine to send an acknowledge without waiting to send a group acknowledge when the header indicates that an acknowledge message can be delayed and grouped with at least one subsequent acknowledge message.” Basis for this feature is found in the specification on page 18, lines 10-15. The cited art does not teach or suggest to use a delayed acknowledge time to insure an acknowledge is eventually sent if too much time passes waiting for the group acknowledge to be sent. Reconsideration is respectfully requested.

Claims 4 and 5

Independent claim 4 was amended to include limitations similar to the limitations described for independent claim 1 and dependent claim 3. The arguments above with respect to claims 1 and 3 are included here. For the reasons stated above, claim 4 as amended is allowable over Hamilton, and applicants respectfully request allowance of claim 4. Claims 5 depends on independent claim 4, which are allowable for the reasons given above. As a result, claim 5 is allowable as depending on an allowable independent claim.

Claims 6-9, 12, 13, 15-17, and 19

Independent claims 6, and 9 were amended to include similar limitations to the limitations described for independent claim 1. Each of these independent claims clearly recite communication of at least one ordered message to a plurality of other computer systems in a cluster computer system, where the ordered messages allow a cluster of computers to cooperate to perform a task. For this reason, claims 6 and 9 as amended are allowable over Hamilton, and applicants respectfully request allowance of these claims. Claims 7-8, 12, 13, 15-17, and 19 depend on independent claims 6, and 9, which are allowable for the reasons given above. As a result, claim 7-8, 12, 13, 15-17, and 19 are allowable as depending on an allowable independent claim.

New claims 21-24

New claims 21-24 were added. These claims are similar to claims 2 and 3 discussed above. Basis for these claims is as stated with reference to claims 2 and 3. Consideration of these new claims is respectfully requested.

For the claim limitation of a clustered computer system, the Examiner points to a section of Hamilton (col. 5, lines 55-60) that teaches the invention “may be practiced in distributed computing environments.” This section of Hamilton further describes how the invention can be used with micro-computers, hand-helds, mainframes and other computer devices. This section of Hamilton clearly means that the multicast system described in the patent for sending short messages in a reliable manner can be used in any computer system environment, including a distributed computer system. The listed computer environments are configurations of senders and recipients for sending multicast messages. They do not teach or suggest changing the way prior art clustered computers send ordered messages.

The Examiner’s interpretation of Hamilton uses hindsight from Applicant’s invention to find anticipation. There is no teaching or suggestion in Hamilton to modify the manner of sending ordered messages in a clustered computer environment. The cited section of Hamilton taken in total with the rest of the patent merely shows that one could change the normal multicast system to one that has greater reliability for short messages in many computer environments, including distributed computing. The cited section would suggest to one of ordinary skill in the art that the sender and recipient computer systems used to implement Hamilton’s invention could be one of the listed systems.

The cited section of Hamilton does not teach or suggest to one of ordinary skill in the art to modify the normal manner of clustered computing to include a sliding window with ordered messages cooperating to perform a task. The Examiner has used the mere mention of putting the invention of Hamilton into a distributed computing environment to find the whole teaching of changing the way ordered messages are sent in a cluster computer system. This teaching is simply not there. The Examiner has read into Hamilton much more than Hamilton teaches. One with ordinary skill in the art would not see such a complete modification of sending ordered messages without using the

Applicant's invention as a guide. The Examiner's rejection relies on hindsight reconstruction to find the claimed invention in Hamilton.


Further evidence of hindsight reconstruction is found from the fact that the Examiner's reconstruction would not work in the other instances of the same paragraph. For example, the Examiner's interpretation of Hamilton would seem to suggest that Hamilton teaches that sending ordered messages with a sliding window would be advantageous in hand held devices. Obviously this conclusion makes little sense. The conclusion was only meaningful in the case of distributed computing. But the only suggestion that this would be advantageous came from Applicant's disclosure, not from the prior art. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection based on Hamilton and allow the claims to issue.

Further, the Examiner's rejection based on Hamilton requires a leap of logic that is unfounded. Hamilton merely suggests that the described invention can be used in a distributed computing environment. Even if this were taken to mean applying a sliding window in a distributing environment, it does not teach or suggest to put it into a clustered computing environment. Distributing computing does not imply the use of ordered messages. Some types of distributed computing do not use ordered messages. Further, distributed computing does not imply clustered computing. There are other types of distributed computing that are not clustered. The claimed invention requires communicating ordered messages in a cluster of computers. The suggestion in Hamilton that the described invention can be used in a distributed computing environment does not teach or suggest to use ordered messages in a clustered computing environment.

Conclusion

In summary, Hamilton does not teach, support, or suggest the unique combination of features in applicant's claims presently on file. Therefore, applicant respectfully asserts that all of applicant's claims are allowable. Such allowance at an early date is respectfully requested. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

By 
Bret J. Petersen
Reg. No. 37,417

MARTIN & ASSOCIATES, L.L.C.
P.O. Box 548
Carthage, MO 64836-0548
(417) 358-4700